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A sequential d-guaranteed test for distinguishing two interval hypotheses

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Abstract

© 2016, Pleiades Publishing, Ltd.In this paper we consider a sequential d-guaranteed “first crossing” test for distinguishing hypotheses H0: θ∈ Θ0 = [a, b] under alternative H1: θ∈ Θ0 for the mean of a normal distribution N(θ, σ2). Unknown value θ is a realization of the random variable ϑ with a prior normal distribution N(μ, τ2). The continuation region of the experiment is written implicitly and also its graphical illustration is given. We suggest a modification of this region, which understate guarantee of the sequential test, but has an explicit form. Also, our goal is to explore the characteristics of the moment of stopping of the statistical experiment(sample size) using statistical modelingmethod and to illustrate matching the characteristics of a modified test to nominal values of d-risk.

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Keywords

first crossing d-guaranteed test, normal-normal model, Sequential test, two-sided hypotheses